

MONITORING
AND
TARGETING
FOR ENERGY
EFFICIENCY

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In recent years, organisations in both the private and the public sectors have enjoyed the benefits of lower energy prices. But what of the future? What will happen to the profits of industry and commerce or to the resources at the disposal of the public sector if energy prices start rising again?

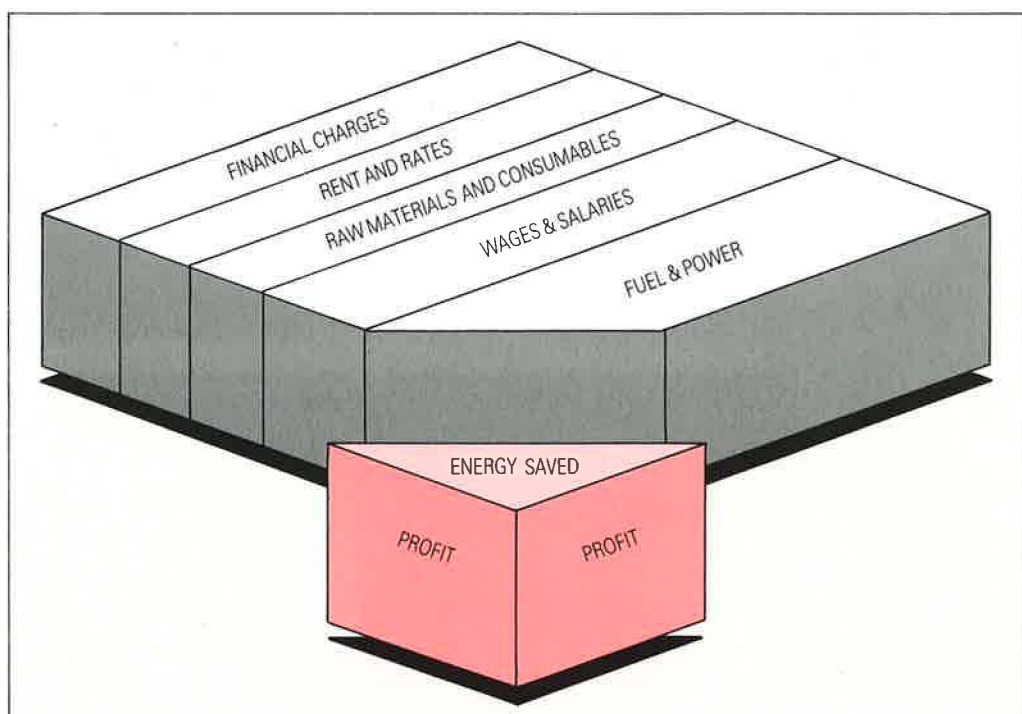
Energy costs can be firmly controlled by using energy with greater efficiency. Indeed, many organisations in the private sector which have cut costs in other areas are already finding that greater energy efficiency now offers the greatest potential for improving their 'bottom line' profit figures.

But successfully achieving greater energy efficiency depends on developing an energy management strategy that will secure and maintain progressive reductions in energy consumption for the same or higher levels of

output. And the foundation of effective energy management is the introduction of a system of monitoring and targeting to equip firms with the information and the motivation to attain greater levels of energy efficiency.

Monitoring and targeting is a management approach which enables organisations to manage energy as a controllable resource in the same way as they manage other resources such as capital finance and manpower. Already more than 600 sites in industry, commerce and the public sector have adopted specific M&T systems and are enjoying savings in energy costs running at more than £100 million a year.

This booklet provides an introduction to monitoring and targeting and the part it can play, as a powerful and flexible management approach, in helping to control and reduce energy consumption per unit of output so as to cut costs and – in the public sector – release resources for other uses and – in industry and commerce – boost competitiveness and increase profits.



Relationship between profits & energy cost savings.

MANAGING ENERGY EFFECTIVELY

Monitoring and targeting is a truly effective way to manage energy use. It is a disciplined management approach that, by combining systematic procedures for controlling energy consumption with a planned approach to the improvement of overall energy performance, results in energy being used more productively.

In the first place, M&T helps organisations eliminate waste and reduce their current levels of energy use by providing them with the information they need to improve their existing operating procedures. But at the same time, it also generates the motivation for them to introduce new measures to bring about further increases in efficiency and provides them with the information on which to select those measures.

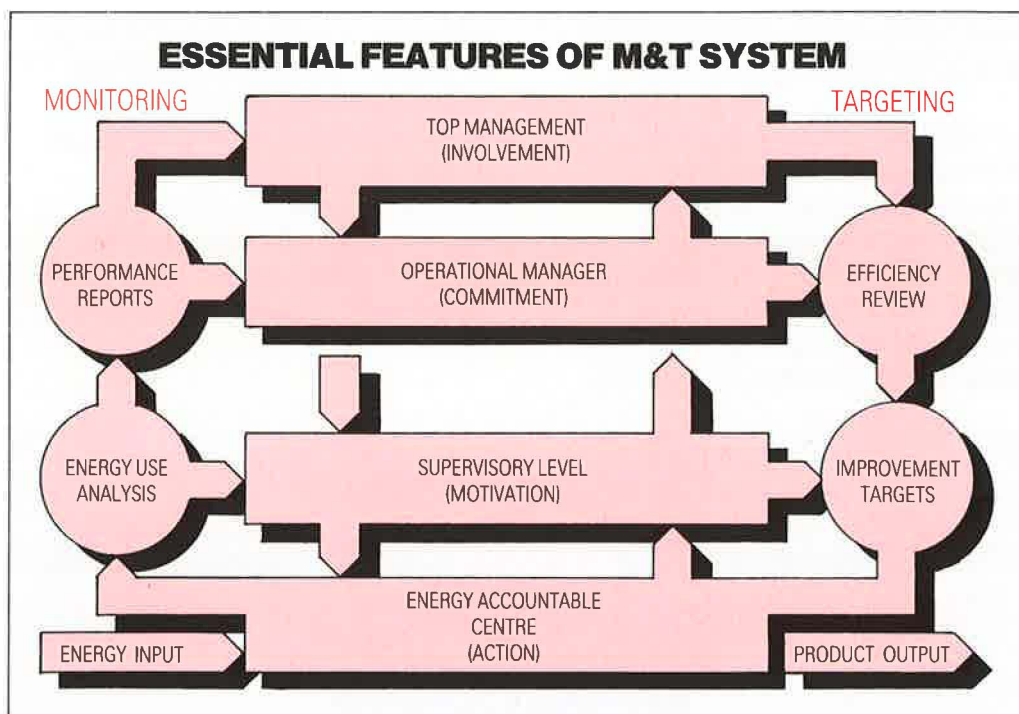
The essence of monitoring is that energy use is accurately measured, then compared with a set of standards derived from a knowledge of the organisation's own capability, and then possibly further checked by reference to external norms.

Once the monitoring process is under way, targets are set to motivate all involved to seek an improvement in performance beyond the set standards.

By welding the control and motivational aspects of energy management closely together, M&T provides a structured framework in which managers at all levels are able to optimise efficiency through the careful use of the energy resources for which they are responsible.

Through the introduction of a monitoring and targeting system alone, many organisations have found that they can cut their energy consumption by up to ten per cent. And, by quantifying the way in which energy is used and so providing proof of savings, M&T acts as an incentive to further action and equips them to make sound investments to improve their energy efficiency still more.

The paramount requirement for a successful implementation of M&T is the unequivocal commitment of top management to the efficient use of energy resources.



The main elements of a company targeting system showing the principal information flow paths.

PUTTING PEOPLE BEFORE PROCEDURES

Getting the human element right is vital to the success of any management system. So when introducing monitoring and targeting into an organisation it is essential to put people before procedures and, first of all, to establish a chain of managerial responsibility which reaches right up to senior management and which can motivate improvements in energy efficiency throughout the organisation.

The first step, therefore, in installing a monitoring and targeting system is to identify along the energy flow paths within the organisation a series of 'energy-accountable centres' which will provide the requisite breakdown and the framework necessary both for monitoring energy performance and for achieving targets. An energy-accountable centre might consist of an individual machine, the whole building or even an entire site in a multi-site enterprise.

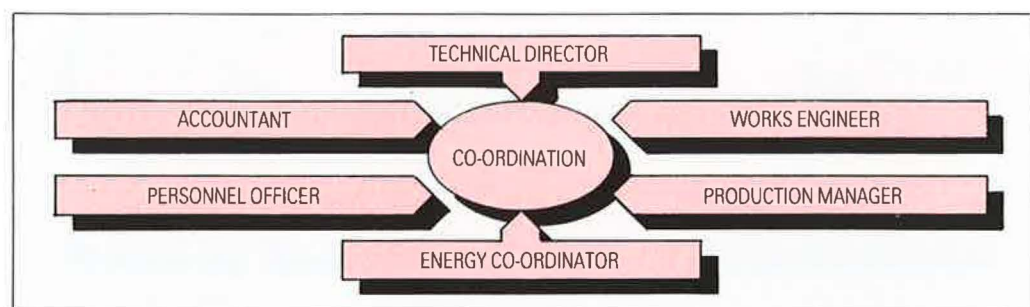
Recording and reporting procedures for these centres should be set up at appropriate levels within the organisation to allow control at less frequent intervals but over greater amounts of energy by more senior management.

Each centre must relate to a nominated individual responsible for operational achievement in that area. Tying resource consumption to those responsible for operational achievement is a key factor in a monitoring and targeting system since it focusses attention on those with the authority to bring about improvements in performance.

Those held accountable for energy performance should also be able to assess that performance and also have the pertinent information on which to base judgements, decisions and actions to bring about improvements.

Co-ordination, however, is vital. Effective energy management within any organisation depends on the full commitment and continuing support of senior management, who must participate in the development of corporate energy policy, the establishment of targets and in the monitoring of progress. Larger organisations should consider setting up – in conjunction with the M&T system – a multi-disciplinary interdepartmental 'Energy Executive'. This would be manned by senior staff – not only those with the knowledge and ability to effect energy improvement measures but also managers who are primarily concerned with finance and investment or with labour relations. A typical Energy Executive for an industrial concern might include the accountant, the chief engineer, the production manager, the chief maintenance engineer and the personnel officer.

In turn, the Executive might consider the appointment of a person to act as an 'Energy Co-ordinator'. Such a person should have specific responsibility for monitoring overall energy performance, and should be provided with the means to measure energy performance, the tools to motivate all employees, the yardsticks to assess the economics of energy-related investment and the authority to call on external assistance where necessary.



An Energy Executive for a factory

MEASURING WHAT YOU MANAGE

Before any resource can be managed effectively, it must be measured correctly – in order to provide the information upon which to base management decisions. So, like all truly effective management systems, monitoring and targeting depends on the collection of relevant data upon which to judge current performance and to plan for future improvements. The gathering of this information forms the first part of the monitoring process.

At its simplest, monitoring involves the systematic and regular measurement and recording of the energy consumption of the whole organisation. This data can be obtained in a variety of ways – for example, from fuel invoices, which must then be adjusted to allow for different reading dates; or from metering, which may necessitate installing more meters and employing staff to read and transfer the information; or by means of a microprocessor based system.

However, even with the simplest system, it would be unwise to underestimate the

complexities of monitoring, particularly in terms of establishing exactly what should be monitored and by what means. At its most complex, monitoring can involve continuous recording, and computer-based processing, of data from a hierarchy of sub-meters and plant instrumentation. A sophisticated system like this might present information in such a way as to enable operators to optimise operations and energy efficiency on a minute-by-minute basis.

Managements will want to choose the monitoring system, and any consequent arrangement of sub-meters, which is most appropriate to the size of their own fuel bills and which fits in with the energy-accountable centres already established.

It is important that the information obtained should be reasonably accurate and that the monitoring process tied in with other review procedures, such as monthly financial and production figures, so that information on energy flows can be meaningfully related to other performance data.

CASE STUDY

Tioxide UK Limited

Energy management is all important at the chloride process plant at Greatham in Cleveland



Tioxide UK Ltd, Chloride Process Plant, Greatham, Cleveland.

where the energy used to manufacture TIOXIDE pigments, which are used in paints, accounts for some 25 per cent of operating costs. A dedicated 'AUDITOR' computer-based energy monitoring and targeting system, supplied by I.E.S. Middlesbrough, is used to keep strict control of the £5 million a year energy consumption at the site.

Over 300 inputs from this large and complex chemical plant are continuously fed through a data highway to a remotely situated micro-computer, which is accessed through terminals strategically placed in each of the plant control rooms and in the manager's office. The energy manager at Greatham, Unal Metti, describing the versatile and user-configurable 'AUDITOR', with its powerful real-time data gathering, logging, analysis and display facilities, said: 'It does all that I expected. It provides a range of screen displays and printed reports for operators and managers. It is easy to configure and simple to use. With 'AUDITOR' you can monitor energy usage against target levels, and have the facility to amend targets to take account of varying production factors. I am delighted with the system'.

The application of monitoring and targeting at TIOXIDE has been a major component in its energy management strategy, and should help to ensure that the company remains one of the most efficient producers of titanium dioxide in the world.

ANALYSING WHAT YOU MEASURE

After the collection of energy consumption and cost data, the second stage of the monitoring process is to use that information to analyse and evaluate performance. However, if the data reveals blatant energy misuse or wastage, analysis should not delay remedial action.

Analysis and evaluation involve regularly comparing actual levels of energy consumption with the amount of energy expected to be used as defined by a set of internally based standards which draw on past performance and reflect the particular and varying circumstances of individual energy-accountable centres. Differences between actual consumption and these standards will reveal either improvements in energy efficiency or a fall-off in performance levels. In this way, the information produced by monitoring forms a basis for continuing performance evaluation and control. On the one hand, it will provide quantified evidence of exactly how successful have been the measures to improve performance. On the other, it will indicate if and where failures have occurred and trigger the necessary remedial action.

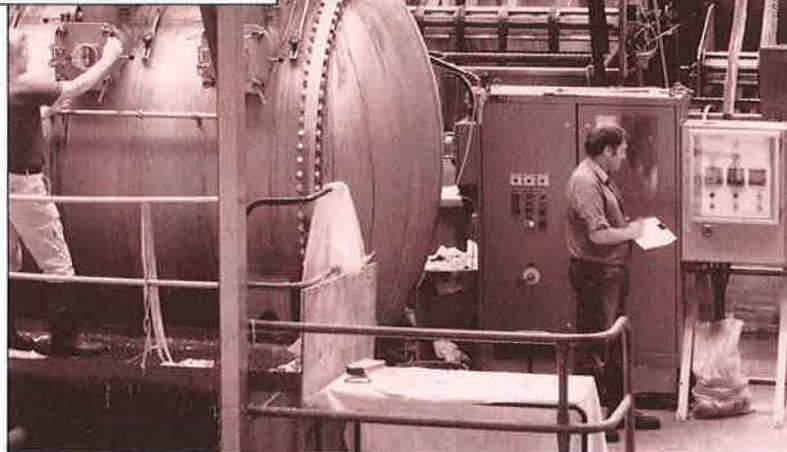
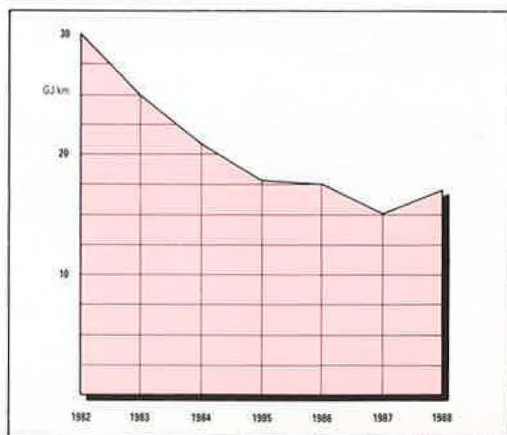
However, to allow valid comparisons to be made between actual performance and the standards, data must be 'normalised' – that is, adjusted to reduce the information to comparable terms and to take account of changing circumstances. Allowance has to be made for the influence on energy consumption of 'independent variables', such as output levels, product mix, raw material variations, rejection rates and weather conditions. Approximations both for standards and the corrections due to the independent variables can be derived either in-house or with the assistance of a consultant using the organisation's own records. The information can then be refined later.

Analysis should be a continuing process so that action can be taken speedily if energy efficiency deteriorates. And to ensure effective

performance evaluation and control, each line manager or plant operator must receive the energy throughput and other figures regularly – on a daily or a weekly basis – and promptly so that departures from the standards can be quickly diagnosed and corrected. In turn, line managers themselves must ensure that they respond rapidly to the information they receive. And here, well designed reporting forms, expressed in readily understood energy cost terms, will be very helpful.

The M&T computer software packages now available can play a valuable role in the analysis of monitoring information.

The analysis of recorded data is of course a proper requirement for performance evaluation. It should not, however, be a pre-requisite for remedial action against blatant energy misuse or wastage.



CASE STUDY

Strines Textiles Ltd

Established in Marple near Stockport in 1982, Strines competes with the best in Europe in the printing of textiles. There is no room for inefficiencies in production costs in the industry, and energy ranks with labour and raw materials where management is concerned. The Board of Directors has long been committed to the application of monitoring and targeting in energy management.

Comprehensive metering is employed at each machine centre and monitoring is carried out on a weekly basis with the involvement of senior line managers. Targeting at Strines has been truly progressive and the action programme has entailed substantial capital investment as the factory has moved from central steam-raising to more and more point-of-use gas firing and the employment of point of use steam raisers.

The benefits by way of energy cost reduction and improved manufacturing flexibility have been substantial. Indeed the Board calculates that the firm's annual energy bill would be at least £250,000 higher if the last six years of energy management effort had not been undertaken.

Strines Textiles Ltd, Marples Works.

TARGETING FOR TOMORROW

The first stage in the process of setting targets is to carry out an energy audit – a procedure which can with advantage be repeated every year. An energy audit will identify the possible range of energy efficiency improvement measures available and appropriate to the circumstances of an individual organisation. It will also provide an estimate of their costs and the likely return on investment. Audits may be conducted in-house or by an outside consultant.

From the results of the audit, management can select a series of measures to form an action programme – starting with the most cost-effective and taking into account, for example, the availability of capital and the effect of the measures on the organisations' other activities. In the first instance, the action programme may simply involve changing working practices or adjusting machinery. It may then move on through low cost improvements, like plant and pipework insulation, to investment in higher cost measures, such as heat recovery equipment or more energy-efficient plant.

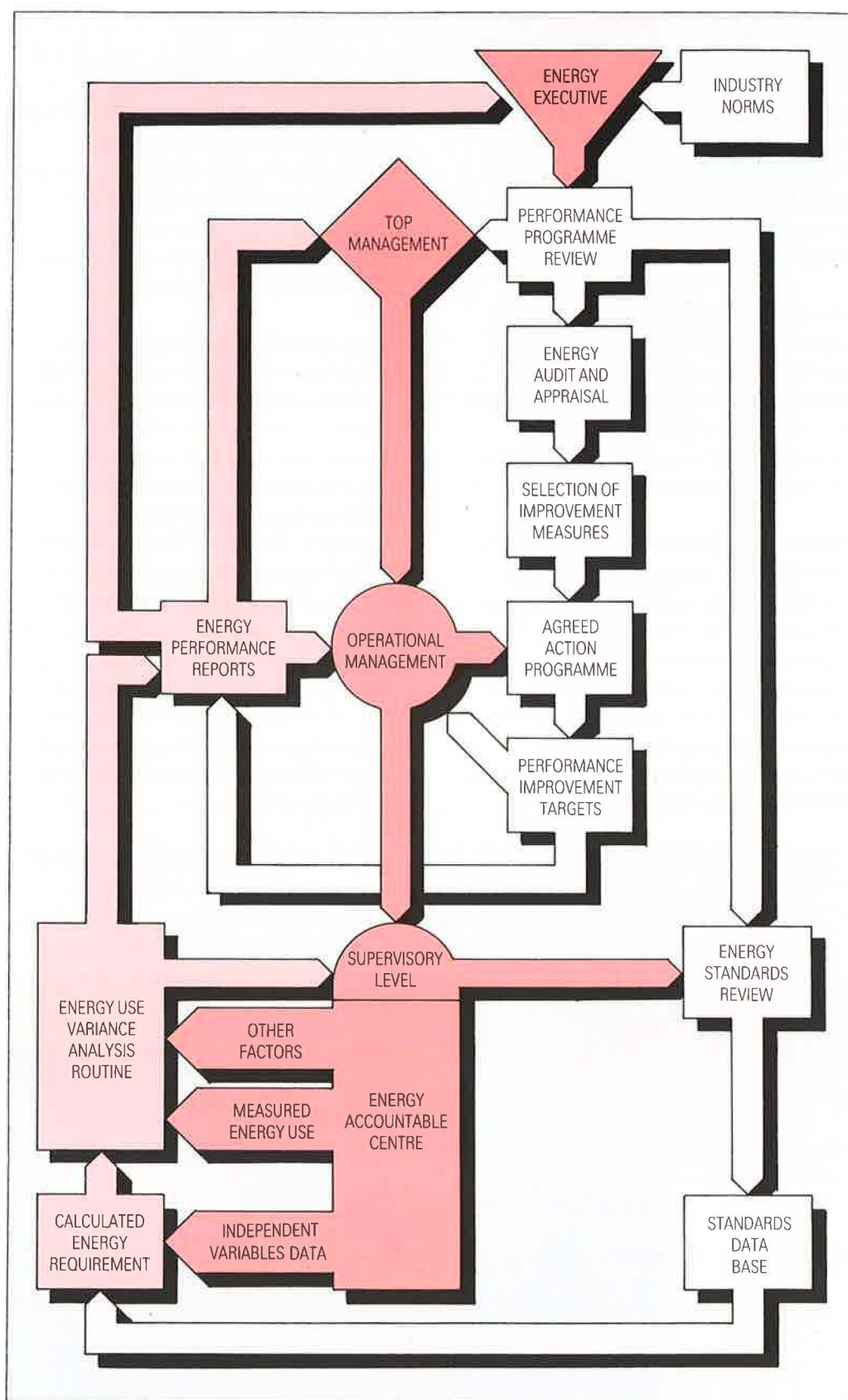
Targets are then set for the implementation of change and the achievement of the predicted energy cost savings. The choice of targets will take account of current standards and the timescale for implementing measures. The targets can relate to the whole organisation, to one site, to a production process or even to a particular machine. And an organisation may wish to set a range of targets, taking account of the scope for improvement, the resources allowed by management to effect improvement and the need to match accountability to the energy-accountable centres.

There are two principal methods of target setting. In the first place, the so called 'top down' approach, a broadly based generalised technique which does not draw on a detailed analysis of the circumstances of the organisation but may be based on experience in the sector as a whole. In the second place, the

'bottom up' method, which is based on a close knowledge of the energy requirements of different parts of an organisation's activities. Both systems have their merits and which one is chosen depends on circumstances and cost-effectiveness. Experience has shown, however, that most British organisations prefer the 'bottom up' approach since it is, by its very nature, more closely tailored to their business needs and hence more effective in providing motivation.

Nevertheless, even if the 'bottom up' approach is adopted, there can still be advantages for senior management in comparing their organisation's targets with those elsewhere in the same sector. This can be a particular spur to action when others are already achieving better energy results. The Energy Efficiency Office's **'Energy Consumption Guides', 'Good Practice Guides',** and other **'Best Practice'** material currently under development, will help managers compare their organisation's energy performance with typical and advanced results in the same sector.

Correctly set, targets have a strong motivational effect on the workforce. But it is important to avoid either impossible or too easily obtainable targets since these can prove counterproductive.

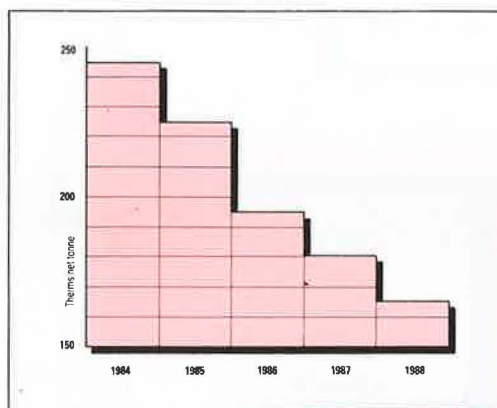


MAINTAINING MOMENTUM

To maintain the momentum of the monitoring and targeting process so that it yields continuing increases in energy efficiency, the system needs to be sufficiently flexible to be able to take account of changes in the human and technical aspects of energy management within an organisation.

To this extent, it is important to carry out a periodic evaluation of the operation of the system – to determine whether targets are being achieved, to measure the relative success of the techniques employed to reach those targets and to identify what opportunities exist for further progress to be made.

It may also be necessary, from time to time, to amend the monitoring procedures to reflect developments both within the organisation and across the sector as a whole. In addition, it is worthwhile incorporating a system of training into the programme to continually renew staff motivation and to equip personnel at all levels with the necessary technical skill and awareness of energy as a cost factor to keep up the drive for greater energy efficiency.



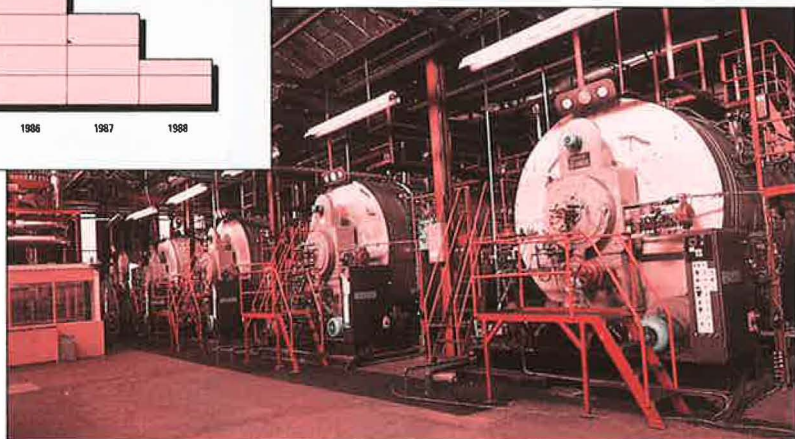
CASE STUDY

Wiggins Teape Group

The managers of the Wiggins Teape Group have embraced the M&T approach to energy management with outstanding results, but none more so than at the Stoneywood Mill in Aberdeen where the specific energy requirement (therms/net tonne) was cut by 33 per cent between 1984 and 1988.

Energy use at all nine Wiggins Teape sites in Britain and on the Continent is subject to M&T procedures. The control of energy consumption is a continuous and paramount concern at the operational level, and weekly reports of energy use against standards are produced for each product area and scrutinised by plant management. Moreover, monthly reports for each plant are produced at group level, which collate overall energy performance against standards and targets, corrected for output, product mix and the season of the year. Graphical presentations of each plant's specific energy use and any variances from standards provide management at the highest level with a succinct indication of achievements from one month to the next.

Today, some two-thirds of the paper and board sector's production is similarly under the disciplined M&T energy management approach. The total energy savings across the industry as a whole in the five years to 1988 were worth over £150 million at 1989 prices.



Wiggins Teape Group, Stoneywood Mill.

MANAGING FOR PROFIT

Organisations which have built up an energy management system based on monitoring and targeting have profited in a number of ways.

In the first place, by its very existence, M&T has enabled them to reduce their energy costs per unit of output by around ten per cent in most instances and in some cases by as much as 25 per cent.

Secondly, it has made possible the regular identification of opportunities for further savings and, where necessary, provided the data upon which to make accurate investment decisions from which further increases in profitability can flow.

Moreover, since energy figures can be easily converted into cost figures – by multiplying the unit energy costs – monitoring and targeting also provides organisations with an accurate means of establishing future energy budgets. In turn, this gives them tighter control over their budgeting procedures and can make a significant contribution to company cashflow.

Monitoring and Targeting is the key to effective energy management. It opens the door to lower costs and higher profits.



CASE STUDY

UB (Ross Young's)

'M&T certainly worked for us', says Benedict Cadbury, Factory Manager of the UB (Ross Young's) factory in Fakenham, Norfolk, which manufactures over 30 varieties of frozen pasta meals for the UK and for export. Introducing monitoring and targeting to his factory, Mr Cadbury found he had first to overcome the indifference of some of his production managers who, understandably perhaps, held the view that energy was nothing to do with them since it had historically been accounted for as an overhead. Much attention was paid to labour costs, so Mr Cadbury put it to them that as the energy bill was a third of the direct labour cost, they should at least devote a proportionate effort to saving energy. They soon responded to the demands that the adoption of M&T was to place upon them. Within a year, their efforts had resulted in electricity costs being reduced by nine per cent and fuel oil usage falling by a remarkable 22 per cent.

The key to M&T success, says Benedict Cadbury, is 'to start simply and build up. Don't intimidate people with too much information too soon. And brief staff regularly, telling them what you're doing and how you're doing it'.

The UB factory was one of the five host sites that took part in the EEO's M&T system Development Programme for the refrigerated food sector which is currently being promoted throughout the UK industry by the Food and Drink Federation. UB itself is engaged in the adaptation of the M&T approach to factories throughout the group.



UB (Ross Young's), Fakenham.

CASE STUDY

Barclays Bank plc

The Energy Section of Barclays Bank has the support of senior management to effectively and efficiently manage energy in all the group's buildings. The measures implemented by the Section include the fitting of micro-processor heating controls, the replacement of tungsten lights by modern fluorescents and the installation of an energy management system to control the larger buildings. But of crucial importance has been the introduction of monitoring and targeting at some 2,000 individual branches.

Following surveys and reports by consultants, fuel targets were set for each branch, and consumption is monitored monthly. The targets

and the monthly figures are plotted on graphs which are put on display within the branches to help involve all the staff in the scheme.

Barclays has found that regular monitoring has produced a number of benefits. It has aided branches in managing energy and increased staff awareness of the importance of energy efficiency. It reveals where and when faults occur, and monitors the benefits of the measures taken. It has also made possible the build up and maintenance of an Energy Database.

Without the efforts in energy management in the branches and the new equipment it has installed over the past six years, Barclays Bank's network energy costs would be some 27 per cent higher than their current level.



CASE STUDY

Lancashire County Council

To be effective as an energy control mechanism, monitoring and targeting has to be simple, easily understood and informative to the mostly non-technical managers or users of public buildings.

The M&T system in use within Lancashire County Council since 1983 involves reports to each Building Manager, showing the energy performance for each of the five most recent years, detailing fuel consumption and overall costs, and comparing useful energy with a 'good practice' performance index which is weather corrected.

Many Lancashire schools take part in a shared energy savings scheme within which current year performance is compared with a target calculated from the previous four years' actual consumption, suitably adjusted to reflect weather and utilisation changes. Actual energy performance is reported monthly and the effects of investment and good housekeeping come together to produce best potential performance. Monthly monitoring can be very

demanding in field staff time. Therefore, this level of monitoring is only applied on a short-term basis in order to allow the operation of high energy consuming/poor performance buildings to be improved.

Following the study of Local Authority energy performance by the Audit Commission, the Normalised Performance Index (NPI) has been built into Lancashire County Council's energy analysis package and has been used to identify buildings for exhaustive analysis with the potential for high savings. An example of work stemming from such analysis has recently been completed at Blackburn College where a very high NPI was identified with both inefficient energy generation at a centralised boiler plant with poor distribution losses and with poor control over a major complex of independent buildings. Provision of localised boilerplants and an energy management system has reduced the original space heating energy consumption by 40 per cent. The work was carried out by an Energy Performance Contractor without any capital input by the County Council and is entirely funded from energy cost savings over a seven year period.



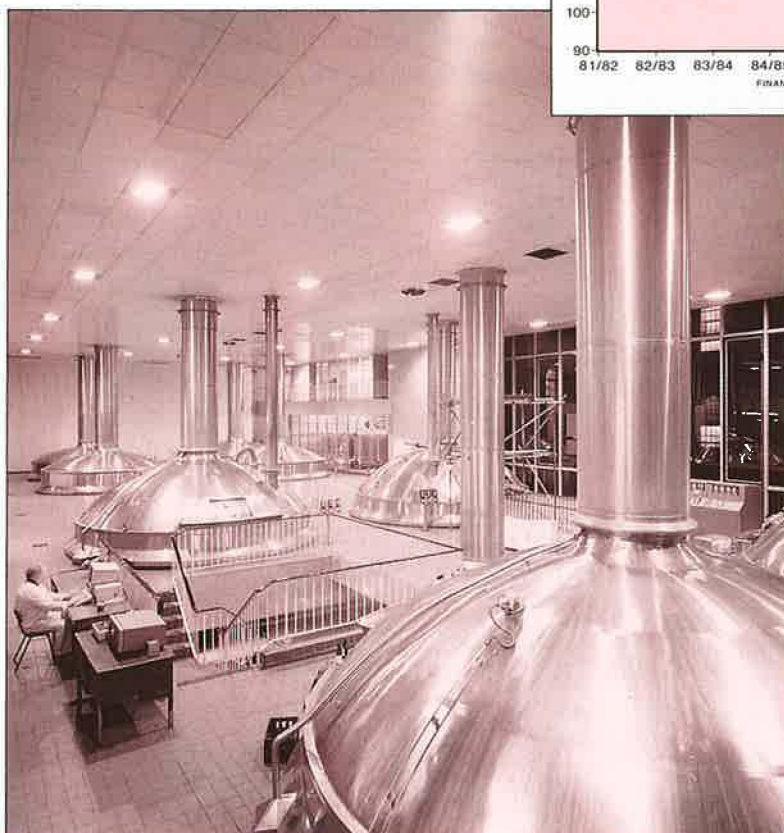
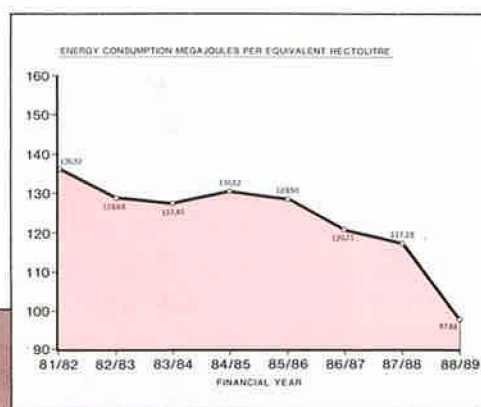
CASE STUDY

Ind Coope Burton Brewery

The amount of energy used to make beer at Ind Coope's Burton brewery dropped dramatically in 1988. The reduction in specific energy between March 1988 and February 1989 was four times the average achievement over the previous three years. That was not because Ind Coope Burton was backward over energy efficiency prior to 1988. Indeed the brewery has been committed to energy management for many years and from 1981 to 1988 specific energy fell by 19 per cent. The pronounced energy improvement in 1988 followed the adoption of M&T in the early part of the year. It was achieved despite a period of reduced overall output and increased small pack production and at a time when extensive reconstruction work was being undertaken at the brewery.

All main departments are now effectively accountable for energy consumption. Meter readings are processed centrally by the Engineers' Department. Consumption and costs are then allocated to individual departments, who calculate indices and produce graphs. Overall energy performance is reviewed every four weeks with the Managing Director and the Site Executive.

Clear recognition of Ind Coope Burton's achievements came when the brewery's energy manager, Mike Jobson, was selected as one of the four finalists for the Energy Manager of the Year Award in 1988.



Ind Coope Brewery, Burton upon Trent.

INFORMATION & ADVICE

There are two main sources of assistance for firms seeking to set up a monitoring and targeting system for the first time: the trade and research association relevant to their industry and independent energy consultants. In addition, the Energy Efficiency Office can provide a wealth of relevant information and advice.

Monitoring and Targeting Programme

The EEO has been funding a major programme to help individual sectors of industry and commerce develop and promote the adoption of monitoring and targeting systems appropriate to their operations. The programme, which has now covered the majority of Britain's energy-saving sectors, has in general been implemented through the relevant sector trade or research association. In each case, M&T systems have been developed which best suit the needs of the companies in the sector concerned and, as the work is completed, manuals are produced which other firms can use for guidance when installing their own monitoring and targeting systems. The M&T Programme will come to an end in 1990 but EEO support for monitoring and targeting will continue as part of its 'Best Practice' programme (please see below under Energy Efficiency Office Programmes).

The trade and research associations which have been involved in the programme are listed below and they may be able to help companies develop their own M&T systems.

Aluminium Federation
 Association of British Launderers & Cleaners & Rental Services
 Bacon & Meat Manufacturers Association (meat canning)
 Biscuit, Cake, Chocolate & Confectionery Alliance
 Brewers Society
 British Aggregate Construction Materials Industries

British Ceramic Manufacturers Federation (pottery)
 British Ceramic Research Association (bricks and pottery)
 British Fibre Board Packaging Association (paper converting)
 British Food Manufacturing Industries Research Association (food processing and confectionery, refrigeration and cold storage)
 British Foundry Association (iron foundries)
 British Frozen Food Federation
 British Fruit & Vegetable Canners Association
 British Glass Manufacturers Confederation
 British Hotels, Restaurants and Caterers Association
 British Independent Steel Producers Association
 British Non-Ferrous Metals Technology Centre
 British Paper and Board Industry Federation
 British Plastics Trade Federation
 British Property Federation (commercial buildings)
 British Soft Drinks Association
 British Textile Employers Association
 British Textile Technology Group (textiles and fabric care)
 Bus and Coach Council
 Campden Food and Drink Research Association (food canning)
 Cement Makers Federation
 Chemical Industries Association
 Concrete Society
 Dairy Trade Federation
 Drop Forging Industries Association
 Federation of Bakers
 Flour Milling and Baking Research Association
 Food & Drink Federation (food processing)
 Freight Transport Association
 Gin Rectifiers & Distillers Association
 Guild of Cleaners & Launderers
 Hotel Catering and Institutional Management Association
 Institute of Grocery Distribution
 Knitting Industries Federation
 Malt Distillers Association of Scotland
 National Association of the Laundrette Industry
 National Cold Storage Federation
 National Federation of Clay Industries (bricks)
 Production Engineering Research Association (general engineering)

Retail Consortium
 Rubber and Plastics Research Association
 Scotch Whisky Association
 Society of Laundry Engineers & Allied Traders
 Steel Castings Research and Trade Association
 Throwsters Association (man-made fibres)
 Timber Research and Development Association
 (saw milling)
 UK Association of Frozen Food Producers
 Vodka Trade Association
 Water Authorities Association
 Water Companies Association
 Water Research Council

Trade and Research Associations

Trade and research associations which have not participated in the EEO's Monitoring and Targeting Programme may still be able to offer firms guidance and assistance on M&T systems and, perhaps most important of all, advice on the experience of other organisations in the same sector. For further details, please contact the trade or research association applicable to your sector.

Regional Energy Efficiency Officers

Advice and information on all aspects of energy efficiency, including monitoring and targeting, is available free from the Regional Energy Efficiency Officers. REEOs establish and maintain links with energy managers in industry, commerce and the local authorities in their particular areas, and you will find their wide experience and specialised knowledge invaluable in developing an energy efficiency strategy.

REEOs will also be able to advise on and demonstrate some of the M&T computer software packages which are now available.

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Tel: (091) 232 4722

Yorkshire & Humberside Region

David Harrison
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Tel: (0532) 338284

East Midlands Region

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Tel: (0602) 506181

Southern Region

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South West Region

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North West Region

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*(The 01- prefix will become 071- from 6 May 1990.)

Energy Efficiency Office programmes

Organisations which have adopted monitoring and targeting could also benefit from the results produced by three EEO programmes designed to bring about greater energy efficiency in every sector of the economy – the current Best Practice programme and the now completed Energy Efficiency Demonstration Scheme and Research and Development Programme. The **Best Practice programme** aims to advance and spread good practice in energy efficiency in key areas of industry, commerce and the public sector. The **Demonstration Scheme** involved some 340 projects that demonstrated innovative energy-saving technology in industry and buildings. The **R&D Programme** included over 160 projects covering many aspects of energy use. Projects approved before April 1989 have been continued and publicised and the results achieved by previous projects continue to be available in the form of project profiles and case studies.

The Application of Monitoring and Targeting to Energy Management

Available through HMSO, this is a detailed guide to the development of M&T systems. Drawing on a wealth of practical examples, it describes the principles of monitoring and targeting together with the steps necessary to establish M&T as an integral part of an existing management organisation. It sets out the procedures for monitoring energy use, defining standards and targets, reporting results and reviewing progress.

Energy Management

The journal of the Department of Energy, **Energy Management** is published monthly and mailed free to all those interested in energy efficiency. It provides the latest information on developments in energy technology and highlights areas where energy efficiency techniques have been successfully applied.

Six times a year, **Energy Management** incorporates a special supplement called **Energy Management Focus**. Each Focus

highlights the energy cost-saving opportunities which exist in a particular sector and which are available through the application of a particular technology. Focus also includes articles of a technical and economic nature and provides an ideal reference source on current energy developments.

As an aid to energy management in buildings, every issue of **Energy Management** includes a table of Degree Days which give regional temperature variations.

Fuel Efficiency Booklets

These contain essential technical material presented in an unbiased way to help firms plan for greater energy efficiency and derive the maximum benefit from M&T. The booklets are laid out for easy reference and cover many of the most common energy problem areas.

Energy Management, the Fuel Efficiency Booklets and a wide range of other publications, films and publicity materials, designed to help firms gain the maximum benefit from establishing a monitoring programme, are available free from the Energy Efficiency Office. To find out more, please contact: Energy Efficiency Office, Department of Energy, Eland House, Stag Place, London SW1E 5DH, tel. *01-273 0690 or the Regional Energy Efficiency Officer for your area.

Note: * The 01 prefix for the London numbers listed above will change to 071 from 6 May 1990.

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